

TECHNICAL REVIEW DOCUMENT
For
MODIFICATION TO OPERATING PERMIT 95OPMR010

Colorado Interstate Gas Company – Ft. Morgan Compressor Station
Morgan County
Source ID 0870003

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I. Purpose:

This document establishes the decisions made regarding the requested modifications to the Operating Permit for the Ft. Morgan Compressor Station. This document provides information describing the type of modification and the changes made to the permit as requested by the source and the changes made due to the Division's analysis. This document is designed for reference during review of the proposed permit by EPA and for future reference by the Division to aid in any additional permit modifications at this facility. The conclusions made in this report are based on the information provided in the requests for modification submitted to the Division on May 21 and June 23, 2008, comments on the draft permit submitted on June 23, 2008, additional information submitted on June 30, 2008, various e-mail correspondence and telephone conversations with the source. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

II. Description of Permit Modification Request/Modification Type

The renewal operating permit for the Ft. Morgan Compressor Station was issued on July 1, 2006. As part of the renewal permit processing, the Division incorporated provisions for new triethylene glycol (TEG) dehydrator that was intended to replace the two existing ethylene glycol dehydrators. Flash tank and still vent emissions from the proposed new TEG unit were to be routed to the plant flare. Upon startup of the TEG unit, the source determined that they were unable to comply with the visible emission requirements and opted to install a dedicated temporary flare until a dedicated

permanent flare could be built. The plant flare will remain at the facility but emissions from the TEG unit would no longer be routed to it. Use of the plant flare would revert to its original purpose. The plant flare will be used for waste gas combustion from a liquid/gas separator. When the gas pressure exceeds a certain level in the separator, the gas is sent to the plant flare. Flaring would only occur during withdrawal and only when the pressure in the separator exceeds a certain level. The Division had originally anticipated no necessary changes to the permit with the installation of the temporary flare and then subsequently the permanent flare; however, this proved to not be the case. Therefore, the source submitted an application on May 21, 2008 to modify the permit. In their modification application, the source indicated that such request qualified as a minor modification as defined in Colorado Regulation No. 3, Part C, Section X and the source requested that the permit modification be processed using those procedures.

Colorado Regulation No. 3, Part C, Section X.A identifies those modifications that can be processed under the minor permit modification procedures. Specifically, minor permit modifications “are not otherwise required by the Division to be processed as a significant modification” (Colorado Regulation No. 3, Part C, Section X.A.6). The Division requires that “any change that causes a significant increase in emissions” be processed as a significant modification (Colorado Regulation No. 3, Part C, Section I.A.7.a). In addition, the Division requires that “every significant change in existing monitoring permit terms or conditions” and “every relaxation of reporting or record keeping permit terms or conditions” be processed as a significant modification (Colorado Regulation No. 3, Part C, Sections I.A.7.f and g).

There will be no changes in emissions associated with this modification. The modification is merely to reflect the use of a dedicated flare for the TEG unit. In addition, the Division considers that this modification will not result in a significant change in monitoring, nor does this modification relax any reporting or recordkeeping permit terms. Therefore, the Division agrees that this modification can be processed as a minor modification.

In addition, on June 23, 2008, the source submitted a request to modify the language in the permit specifying when GLYCalc runs are triggered. The current language requires that a GLYCalc run be conducted if certain monitored parameters exceed a given threshold level, unless the unit is operated for less than 10 days in the month. The June 23, 2008 modification requests that this 10-day requirement be revised to 240 hours (10 days times 24 hours per day). In their modification application, the source indicated that their requested change met the definition of a minor modification as defined in Colorado Regulation No. 3, Part C, Section X and the source requested that the permit modification be processed using those procedures. As discussed above for the May 21, 2008 modification, a modification that is a significant change in existing monitoring permit terms or conditions or a relaxation of reporting or record keeping requirements cannot be processed as a minor medication. Since 240 hours is equivalent to 10 days, the Division considers that revising the language to specify hours, rather than days is not a significant change in monitoring or a relaxation in reporting or recordkeeping.

Therefore, the Division agrees that this modification can be processed as a minor modification.

III. Modeling

Modeling was conducted for this facility (for NO_x emissions) in 2003 in order to construct and operate engine CG-12 and the modeling indicated that neither the facility or the proposed new engines would cause or contribute to a violation of the national ambient air quality standards (NAAQS) or the Colorado ambient air quality standards (CAAQS). When the TEG unit was initially permitted in 2006, the Division indicated that modeling was not required because there was no increase in emissions associated with the modification except for a slight increase in CO emissions.

Neither the May 21 nor June 23, 2008 requested modifications result in a change in permitted emissions. Although the location of flared emissions from the TEG unit will change, since the NO_x and CO emissions from the TEG unit/flare are well below the modeling thresholds specified in the Division's modeling guidance (40 tons/yr of NO_x and 100 tons/yr of CO) and it is not expected that NO_x and CO emissions from this facility will cause or contribute to a violation of the NAAQS or CAAQS, further modeling is not warranted.

IV. Discussion of Modifications Made

Source Requested Modifications

The Division addressed the source's requested modifications as follows:

May 21, 2008 Modification Request

Section I – General Activities and Summary

- Revised the facility description in Condition 1.1 to address the TEG unit and the changes to the flares.
- Revised the control device description in the table in Condition 7.1 to indicate that the flare is air-assisted, rather than non-assisted.

Section II.5 – Dehydrator and Flare

- Revised the table header to say "Flare" rather than "Facility Flare"
- Revised the language in Condition 5.8.3.1 to require a gas heating value of 300 Btu/scf for air-assisted flares.

Note that the November 27, 2006 application indicated that the Btu content of the gas sent to the flare was over 500 Btu/scf; therefore, the Btu requirements will be met without supplemental fuel to the flare.

- Revised the language in Condition 5.8.3.2 to specify the maximum exit velocity for air-assisted flares.
- Revised the language in Condition 5.9 to indicate that the performance test requirements apply (applied) to the facility flare, the temporary dedicated flare and the permanent dedicated flare.

Appendix G – CAM plant

- References to “non-assisted flare” were replaced with “air-assisted flare”.

June 23, 2008 Modification Request

Section II.5 – Dehydrator and Flare

- The phrase “ten (10) days” in Condition 5.2.3 was changed to “240 hours”.

Other Modifications

In addition to the requested modifications made by the source, the Division used this opportunity to include changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this modification.

The Division has made the following revisions, based on recent internal permit processing decisions and EPA comments on other permits, to the Ft. Morgan Operating Permit with the source’s requested modifications.

Section I – General Activities and Summary

- Revised the facility description in Condition 1.1 to indicate that the propane refrigeration is still located at the facility but is not in use and that the engines associated with the propane refrigeration unit (CG-1 and CG-2) have been rendered inoperable and removed from Section II of the permit. In addition, the language was revised to describe the use of the plant flare.
- Replaced the reference in Condition 1.4 to “Section II, Condition 6.6” with “Section II, Condition 5.5” due to the removal of permit conditions.
- Revised the table in Condition 7.1 to include the plant flare and removed engines CG-1 and CG-2 from the table.

Section II.1 – Engines CG-1 and CG-2

- Removed this section from the permits since the engines have been removed and/or rendered inoperable.

Sections II.2 – II.8

- Conditions have been renumbered due to the removal of permit conditions (Section II.1) for engines CG-1 and CG-2.

Section II.6 – Reboiler

- Condition 6.3 has been removed since the reboiler has been in operation for more than one year and the compliance certification requirement has been met.

“New” Section II – 8 – Plant Flare

As discussed previously, the plant flare will remain at the facility but emissions from the TEG unit will no longer be routed to the flare. The flare will resume its previous purpose, which is for waste gas combustion from a liquid/gas separator. When the Title V permit application was originally submitted (December 30, 1994), the application indicated that the facility had a flare that met the insignificant activity exemption in Colorado Regulation No. 3, Part C, Section II.E.3.m (petroleum industry flares, not associated with refineries, combusting natural gas containing no hydrogen sulfide except in trace amounts (less than five hundred parts per million weight), approved by the Colorado Oil and Gas Conservation Commission and having uncontrolled emissions of any pollutant of less than five tons per year). However, the initial Title V permit that was issued did not include the flare in the insignificant activity list.

The basis for the insignificant activity and corresponding APEN exemption for petroleum industry flares in Regulation No. 3, Part C, Section II.E.3.m and Part A, Section II.D.1.m appears to apply to specific situations associated with the production wells, particularly initial testing of a well. Therefore, the Division considers that this category is not appropriate for the plant flare and this facility. The source has indicated that emissions from the flare exceed the APEN de minimis level and submitted an APEN on June 30, 2008. Therefore, the Division is including the plant flare in the permit.

In addition to the APEN reporting requirements, the plant flare is also subject to the opacity requirements for flares in Colorado Regulation No. 1, Section II.A.5. The permit will specify that compliance with the APEN reporting requirements will be monitored by recording gas consumption and calculating emissions annually. Since the plant flare is expected to operate less frequently than it did when TEG unit emissions were routed to it, the Division will require an annual visible emission observation to be taken when waste gas is routed to the flare. If visible emissions are seen, then a Method 9 will be required.

The permit will specify that the source use the following emission factors (from AP-42, Section 13.5 (dated 9/91), Table 13.5-1) to calculate emissions from the flare.

Pollutant	Emission Factor (lb/mmBtu)
VOC	0.063
NO _x	0.068
CO	0.37

Note that AP-42 listed an emission factor for total hydrocarbons. Table 13.5-2 lists the composition of flare emissions and lists methane as 55%. Since methane is not a VOC, the AP-42 emission factor of 0.14 lb/mmBtu for hydrocarbons was adjusted to address this. The emission factor listed above for VOC is 45% of the emission factor for total hydrocarbons.

Since AP-42 emission factors are in units of mmBtu/hr, the source will use the average of the two semi-annual heat content determinations made for natural gas during the annual period to convert the quantity of waste gas combusted into units of lb/mmBtu.

Section III – Permit Shield

- In the first column in Section 3 (streamlined conditions), the references to Conditions 6.4 and 6.7 were revised to Conditions 5.3 and 5.6 due to the removal of permit conditions.

Appendices

- The tables in appendices B and C were revised to indicate that emissions from the triethylene glycol dehydrator (still vent and flash tank) are routed to a flare, to remove engines CG-1 and CG-2 and to add the plant flare.
- The Reference to Condition 5.2 in Section I.b was revised to Condition 4.2 due to the removal of permit conditions.

Colorado Regulation No. 7 Statewide Requirements for Oil and Gas Operations

Colorado Regulation No. 7 was revised December 17, 2006 (effective March 4, 2007) to include control requirements for statewide oil and gas operations and natural gas-fired reciprocating internal combustion engines. The statewide requirements for oil and gas operations and natural gas-fired reciprocating internal combustion engines are included in Colorado Regulation No. 7, Section XVII. These requirements potentially apply to the emission units at this facility. The statewide requirements apply to atmospheric condensate tanks with uncontrolled actual emissions equal to or greater than 20 tons/yr of VOC, glycol dehydrators with uncontrolled actual emissions equal to or greater than 15 tons/yr and engines constructed or relocated in Colorado after July 1, 2007.

Condensate tanks and glycol dehydrators located at oil and gas exploration and production operations, natural gas compressor stations, natural gas drip stations and natural gas processing plants are subject to state-only requirements in Sections XVII.C and D. Although the Ft. Morgan facility has a glycol dehydrator and a condensate tank

(included in the insignificant activity list), since the facility is a natural gas storage facility and not a compressor station, the requirements in Sections XVII.C and D do not apply.

In addition, since the engines at this facility commenced operation prior to July 1, 2007, the control requirements do not apply to any of the engines located at this facility.

Area Source MACT Requirements

EPA has recently promulgated MACT requirements for area source (sources that are not major for HAPS). Two of the recently promulgated area source standards could potentially apply to this facility, specifically the requirements for gasoline dispensing facilities (40 CFR Part 63 Subpart CCCCCC) and paint stripping and miscellaneous surface coating (40 CFR Part 63 Subpart HHHHHH). The facility is not a major source for HAPS for some source categories (specifically the Natural Gas Transmission and Storage Facility and Reciprocating Internal Combustion Engine (RICE) MACTS), because these rules allow the source to calculate the potential to emit (PTE) of HAPs for the glycol dehydrator using the natural gas throughput rate determined from the injection and withdrawal rates at the facility, rather than permitted or design rates. Using this calculation method, the facility is not a major source for HAPS. The glycol dehydrator is permitted at 8760 hours of operation per year, rather than at the hours of operation predicted by the injection and withdrawal rates at the facility (2,634 hrs/yr). So based on traditional methods of determining PTE (design rate and/or permitted emissions), the facility is a major source for HAPS. The MACT requirements for gasoline dispensing facilities and miscellaneous surface coating and paint stripping operations do not include provisions to determine PTE using anything other than traditional PTE (design rate and/or permitted emissions). Therefore, for the purposes of these new area source requirements, the facility is considered a major source for HAPS and these requirements do not apply.